



VCAA ASSESSMENT ONLINE

## INTERPRETING ON DEMAND REPORTS



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# Types of On Demand Assessment

The On Demand Testing system provides three types of assessment instruments designed to provide different approaches to evaluation of a student's ability:

- Standard Linear Tests
- Progress Tests
- Computer Adaptive Tests

Tests use a variety of question formats:

- multiple choice
- type in short answer
- hot spot
- drag and drop
- mathematical calculator
- open text response.

All tests which are administered online are automatically marked, and provide immediate feedback on student results via a number of computer generated reports.

## Linear Tests

In a linear test, students receive a fixed set of questions using a variety of question types. All students are presented with the same questions in the same order during the test. Student responses are saved and stored by the computer and teachers are able to view and analyse the results at a student, class or question level.

### ▪ Standard Linear Tests

The system contains a number of general English and Mathematics linear tests as well as single dimension tests in Reading, Spelling and Number. Reports for Standard Linear Tests provide raw score and percentage correct information at student, class and question levels. These reports can assist teachers in identifying areas of strength or weakness.

### ▪ Progress Tests

A Progress Test is a type of linear test that is designed to measure outcomes around the expected Victorian Essential Learning Standards (VELS) range for a given year level. Results from these tests provide an estimated VELS Progression Point score that can be used to corroborate teacher judgment in the specific area assessed. Progress Tests are currently available in Reading and Number for Years 3 to 8.

As well as being available online, the Progress Tests are available as downloadable PDF documents for schools that wish to administer them as pencil and paper tests. A marking rubric and VELS translation table is provided for teachers with the PDF version of these tests.

## Computer Adaptive Tests

Computer Adaptive Tests deliver sets of questions to students that vary according to student ability. Depending on the responses given in previous questions, the system presents progressively easier or more difficult questions to the student. The system contains general adaptive tests in English and Mathematics (60 questions) and single dimension tests (30 questions) in Reading, Writing Conventions, Spelling, Number, Space and Measurement, chance and data. There is currently only one report available for Computer Adaptive Tests - the 'Class Standard Score Report'. This report provides immediate feedback on the results for each student, including an estimated VELS ability score. Question level analysis is not possible for Computer Adaptive Tests.

# Interpreting On Demand Reports

As with any assessment instrument, a single On Demand test cannot provide a definitive summary of a student's ability in any given subject area. The tests are intended to be used in conjunction with other classroom assessments and should not be used in isolation.

## Curriculum

All test items in the On Demand system have been calibrated to the VELS curriculum and expected learning outcomes. For more information about curriculum and learning outcomes visit the VCAA web site at: <http://vels.vcaa.vic.edu.au>

## Estimated VELS Standard Scores

Progress and Computer Adaptive Test reports provide **Standard Score** results which reference the VELS scale. The Progress Test standard score provides an **estimated Progression Point** based on the standard level of test items presented to, and answered correctly by, the student. The Computer Adaptive Test standard score is an **interpolated VELS score** and is based on the difficulty of test items presented to, and answered correctly by, the student.

## Using Progress Tests:

- Progress Tests will provide an estimated Victorian Essential Learning Standards (VELS) Progression Point. These tests are intended to complement and confirm other classroom assessments and teacher judgements, and should not be used in isolation.
- Progress Tests are designed to measure outcomes over a limited ability range only.
- Results are limited to the expected VELS range for a given year level.
- It is not possible to give a reliable ability estimate for students with zero or perfect scores. It is recommended that teachers administer a test at a lower or higher level in these cases.
- Ability estimates for students who achieve close to zero or perfect scores will not be as accurate as those for students with results clearly within the range of the test. Teachers may wish to administer a test at a lower or higher level to confirm results for these students.
- Each Progression Point covers a wide range of learning outcomes. A student's estimated ability is influenced by a result being at or near the bottom or at or near the top of the Progression Point. For example, an estimated Progression Point will be the same for a student with 3 correct answers and a student with 10 correct answers. However, these two students have demonstrated different ability levels.

Following is a sample Translation Table of how Progress Tests calculate the Standard Score based on the number of questions correct.

**Translation Table for Test: VELS 3.5 to 4.0 Number Progress Test**

This test targets outcomes at VELS 3.5 to 4.0.

Number Correct	Progression Point (Standard Score)	Comment
0	Out of Range	The ability of this student cannot be determined using this test. It is recommended that a lower level test be administered.
1 – 2	3.25 (Below Range)	The result indicates that this student is performing below the expected range for this test.
3 – 4	3.5	The result indicates that this student is performing at or just below the low end of the range for this test.
5 – 8	3.5	The result indicates that this student is performing at the low end of the range for this test.
9 – 10	3.5	The result indicates that this student is performing at or just above the low end of the range for this test.
11 – 12	3.75	The result indicates that this student is performing at or just below the middle of the range for this test.
13 – 17	3.75	The result indicates that this student is performing in the middle of the range for this test.
18 – 19	3.75	The result indicates that this student is performing at or just above the middle of the range for this test.
20 – 21	4.0	The result indicates that this student is performing at or just below the high end of the range for this test.
22 – 25	4.0	The result indicates that this student is performing at the high end of the range for this test.
26 – 27	4.0	The result indicates that this student is performing at or just above the high end of the range for this test.
28 – 29	4.25 (Above Range)	The result indicates that this student is performing above the expected range for this test.
30	Out of Range	The ability of this student cannot be determined using this test. It is recommended that a higher level test be administered.

Following is an example of an average student's result for the **VELS 3.5 to 4.0 Number Progress Test**

### Student Raw Score by Question Standard Level

Test Number: 2309  
 Test Description: VELS 3.5 - 4.0 Number Progress Test  
 Test Domain: Mathematics  
 Maximum Score: 30  
 Date From: Any  
 Date To: 08 Dec 2008

(Year Level: All, Home Group: All, Gender: All, LBOTE: All, ATSI: All)

**Number of Students: 5**

**Number of Test Results: 5**

**Student Name: Minnie Mouse**  
**Student ID: Student23**

Test Date: 2/09/2008 11:17:41 AM

Standard Level	Questions	Questions	Questions	
3	1			
	2			
4	4	17	3	
	5		7	
	6		9	
	8		12	
	10		15	
	11			
	13			
	16			
	18			
	19			
5	14		21	
	20		22	
	24		23	
	26		25	
	28		27	
	29			
	30			
<b>Number Correct:</b>	13/19	1/1	5/10	
	Computation	Number Patterns	Understanding Number	
			<b>Raw Score</b>	19/30
			<b>Standard Score</b>	3.75

**(Bolded questions are correct.)**

This result indicates that this student is performing in the middle of the range for this test. This test targets outcomes at VELS 3.5 to 4.0. For more information about interpreting this result download the Interpreting On Demand Reports document at <http://www.aimonline.vic.edu.au/doc/ODI.pdf>

## Using Computer Adaptive Tests:

- These tests are designed to provide an estimated VELS score for a student. This is reported as a Standard Score based on the difficulty of test items presented to, and answered correctly by, the student.
- Questions within each VELS level are categorised into sub-levels labelled as Low, Medium or High depending on their relative difficulty.
- In a 60 question general test students are presented with a group of five questions from a given a sub-level. A minimum of three correct answers allows the student to move to a higher sub-level otherwise the next group of questions presented will be from the next lowest sub-level.
- In a 30 question single dimension test students are presented with a group of three questions from a given sub-level. A minimum of two correct answers allows the student to move to a higher sub-level, otherwise the next group of questions presented will be from the next lowest sub-level.
- A student can move up through the VELS levels while answering some questions incorrectly.
- Because Computer Adaptive Tests are not bounded by a limited range it is possible for a student to demonstrate a higher or lower score than would be possible using a test with a limited range.

Following is an example of results from a Computer Adaptive Year 6 Number test, showing outcomes spread across a wide range.

### Class Standard Score Report

Computer Adaptive Test Number: 2119

Test Description: Mathematics - YR06 - Number

Test Domain: Mathematics

Date From: Any

Date To: 04 Sep 2008

(Year Level: All, Home Group: All, Gender: All, LBOTE: All, ATSI: All)

**Number of Students: 5**

**Number of Test Results: 5**

Student Name	Student ID	Test Date	Standard Score	Standard Level 2	Standard Level 3	Standard Level 4	Standard Level 5	Standard Level 6
Bart Simpson	Student03	1/09/2008 2:01:11 PM	Above 5.9			9/9	9/9	12/12
Mickey Mouse	Student24	3/09/2008 2:16:04 PM	4.5			12/15	8/15	
Minnie Mouse	Student23	4/09/2008 10:17:41 AM	3.7			19/30		
Tod Flanders	Student10	3/09/2008 1:20:14 PM	2.7	2/3	5/12	7/15		
Donald Duck	Student09	1/09/2008 2:28:11 PM	1.0	0/18	0/9	0/3		

Note that for the student (Bart Simpson) with a perfect score of 30/30, the standard score is reported as 'Above 5.9', which is the highest reportable score for this test. For Donald Duck, who has a zero score, the standard score is reported as '1'. This is the system default for any score of zero.

It is not possible to provide accurate information for zero or perfect scores, and in both cases, testing at a more appropriate level is recommended.

## Comparing Computer Adaptive and Progress Test results

The following summary of student data for Year 6 Computer Adaptive and Progress Number tests indicate the estimated Standard Scores that high, mid and low range students can achieve with these different test types.

**Comparison Table of Student Data for Computer Adaptive Test and Progress Test**

Student ID	Student Name	Test ID	Test Description	Testing Date	Total Mark Possible	Raw Score Mark	Standard Score
Student03	Bart Simpson	2119	Mathematics - YR06 - Number	1/09/2008	30	30	Above 5.9
Student03	Bart Simpson	2309	VELS 3.5 - 4.0 Number Progress Test	1/09/2008	30	30	4.5
Student24	Mickey Mouse	2119	Mathematics - YR06 - Number	3/09/2008	30	20	4.5
Student24	Mickey Mouse	2309	VELS 3.5 - 4.0 Number Progress Test	2/09/2008	30	22	4.0
Student23	Minnie Mouse	2119	Mathematics - YR06 - Number	4/09/2008	30	18	3.7
Student23	Minnie Mouse	2309	VELS 3.5 - 4.0 Number Progress Test	2/09/2008	30	18	3.75
Student10	Tod Flanders	2119	Mathematics - YR06 - Number	3/09/2008	30	14	2.7
Student10	Tod Flanders	2309	VELS 3.5 - 4.0 Number Progress Test	2/09/2008	30	13	3.75
Student09	Donald Duck	2119	Mathematics - YR06 - Number	1/09/2008	30	0	1.0
Student09	Donald Duck	2309	VELS 3.5 - 4.0 Number Progress Test	2/09/2008	30	0	1.0

When comparing results from different assessment instruments it is important to consider the factors which can influence results and which may lead to differences or apparent anomalies.

These factors include:

- differences in test construct. This means that comparisons between Progress and Computer Adaptive test results are only meaningful if single dimension adaptive tests in Number or Reading are used.
- consideration of the intended ability range assessed by the test. Results for students performing at the extremes of a test (very high or very low scores) will not be as reliable as those for students with results around the expected range.
- lack of raw score comparability across different tests. The 'value' of a raw score on linear tests depends on the overall difficulty of the test and without doing some form of equating exercise, scores may not be comparable between tests. Raw scores are not meaningful at all for Computer Adaptive tests, as they are derived from different sets of questions at different difficulty levels for each student.
- awareness of circumstances which may affect an individual student's performance on a particular test administered on a particular day.
- differences in the way tests are structured and administered. For example, individual questions in a Computer Adaptive Test time out after a fixed period and students cannot go back to a missed or incorrectly answered questions to check or amend an answer. Students are able to amend and review their answers in Progress Tests.